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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,945	12/12/2006	Masakazu Ogasawara	Q97149	5769

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EXAMINER	
CALLAWAY, JADE R	

ART UNIT	PAPER NUMBER
2872	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,945	OGASAWARA, MASAKAZU	
	Examiner	Art Unit	
	JADE R. CALLAWAY	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/29/06, 4/28/08, 9/12/08, 4/13/09*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 5-25* is/are pending in the application.

4a) Of the above claim(s) *12-25* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 5-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 September 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/29/06, 4/28/08, 9/12/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I in the reply filed on 4/13/09 is acknowledged.

2. Claims 12-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected Group II, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 4/13/09.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings were received on 9/29/06. These drawings are acceptable.

Information Disclosure Statement

5. The information disclosure statement filed 4/28/08 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information crossed out therein has not been considered.

Response to Amendment

6. The preliminary amendments to the claims, in the submission dated 9/29/06, are acknowledged and accepted.

Specification

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

8. The abstract of the disclosure is objected to because of the use of the phrases "further comprises" and "comprising." Correction is required. See MPEP § 608.01(b).

Claim Objections

9. Claim 5 is objected to because of the following informalities: it appears the phrase "is dispose" should instead read "is disposed" in line 2 of the claim. For examination purposes it will be treated as such. Appropriate correction is required.

10. Claim 9 is objected to because it recites the limitation "the objective lens" in line 4 of the claim. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1-3, 5 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keshner et al. (6,310,844) in view of Ueda et al. (7,132,200).

Consider claim 1, Keshner et al disclose (e.g. figure 1) a record carrier having a substrate (114, reference layer) and a reflective layer (115, reflective coating), wherein recording or reproducing of information is performed by light irradiation, characterized by comprising: a two-dimensional recording layer (106, data layer) whose physical property changes in response to light intensity [col. 4, line 31 to col. 5, line 15]. However, Keshner et al. do not disclose that the recording layer comprises two layers wherein one of the layers is a holographic recording layer that reserves an optical interference pattern comprising components of reference light and signal light as a diffractive grating therein; wherein the two dimensional recording layer is disposed between the hologram recording layer and the reflecting layer. Keshner et al. and Ueda et al. are related as recording devices. Ueda et al. teach (e.g. figures 12-13) a holographic recording layer that comprises a layer (e.g. 53, holographic sensitive material) that reserves an optical interference pattern comprising components of coherent reference light and signal light as a diffractive grating therein [col. 9 line 39 to col. 10, line 41]. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of Keshner et al., as taught by Ueda et al., so that a multiple color hologram can be formed at a low cost. Note that combining the two references, the modified Keshner et al. reference teaches that the two-dimensional recording layer (e.g. second layer of Ueda et al./layer 106 of Keshner

et al.) is disposed between the hologram recording layer and the reflecting layer (115, of Keshner et al.).

Consider claim 2, the modified Keshner et al. reference discloses (e.g. figures 12-13 of Ueda et al.) a hologram record carrier wherein the optical interference pattern is produced by a first light beam (e.g. red light beam) so that a hologram is recorded (in layer 53, holographic sensitive material), and the two-dimensional recording layer (e.g. layer 106 of Keshner et al./52 of Ueda et al.) senses a second light beam (e.g. green light beam) so that a mark is recorded according to change of the physical property [col. 4, line 31 to col. 5, line 15 of Keshner et al. and col. 9, line 39 to col. 10 line 41 of Ueda et al.].

Consider claim 3, the modified Keshner et al. reference discloses (e.g. figures 12-13 of Ueda et al.) a hologram record carrier wherein the holographic recording layer (53, holographic sensitive material) has a sensitivity to a wavelength of the first light beam (red light beam) than that to a wavelength of the second light beam (green light beam), and the two-dimensional recording layer (e.g. 52 of Ueda et al.) is a pigmented coat [col. 8, lines 42-67, col. 10, lines 45-61].

Consider claim 5, the modified Keshner et al. reference discloses (e.g. figure 1 of Keshner et al.) a hologram record carrier wherein the two-dimensional recording layer (layer 106 of Keshner et al./52 of Ueda et al.) is disposed on a side of a light irradiation face of the holographic recording layer (light irradiates through the holographic recording layer to contact the two-dimensional recording layer).

Consider claim 9, the modified Keshner et al. reference discloses (e.g. figures 2 and 4 of Keshner et al.) a hologram record carrier wherein the reflective layer (115, reflective coating) has tracks (200, spiral tracks) extending such that they separate from each other without crossing one another for tracking a spot of the light beam that passes from the objective lens (118, objective lens) through the holographic recording layer and the two-dimensional recording layer to be focused [col. 6, lines 22-40 of Keshner et al.].

Consider claim 10, the modified Keshner et al. reference discloses (e.g. figures 2 and 4 of Keshner et al.) a hologram record carrier wherein the tracks (200, spiral tracks) are formed spirally.

Consider claim 11, the modified Keshner et al. reference discloses (e.g. figures 2 and 4 of Keshner et al.) a hologram record carrier wherein the tracks are formed in parallel (the tracks do not intersect).

13. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Keshner et al. (6,310,844) in view of Ueda et al. (7,132,200) as applied to claim 1 above, and further in view of Hays et al. (5,777,760).

Consider claims 6-8, the modified Keshner et al. reference does not disclose a hologram record carrier wherein an end mark, address mark or relational mark indicating an end of a hologram, address of a hologram, information relating to a hologram is recorded on the holographic recording layer at a portion of the two-dimensional recording layer laminated on a portion of the holographic recording layer with the hologram group or group of holograms. Keshner et al., Ueda et al., and Hays

et al. are related as recording devices. Hays et al. teaches (e.g. figures 2-3) a hologram record carrier that includes servo blocks (relational marks) recorded on a two-dimensional recording layer carrying information relating to a hologram on a holographic layer [col. 4, lines 4-11, col. 4, line 65 to col. 5, line 15]. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the device of the modified Keshner et al. reference, as taught by Hays et al., so that position feedback information can be recorded and replayed in a holographic medium. Official Notice is taken. Although Hays et al. does not specifically disclose that the servo blocks could be end marks indicating an end of a hologram, an address mark indicating an address of a hologram; it is well known that servo blocks provide feedback to help control mechanical position or other parameters. End marks and address marks are examples of various parameters that can be recorded in the medium so that feedback can be provided to control mechanical position of the optical device. Further, one of ordinary skill in the art at the time the invention was made would have been motivated to have the servo blocks contain information relating to end marks and address marks so that the position of the optical disk can be controlled to record/reproduce high quality holograms.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JADE R. CALLAWAY whose telephone number is (571)272-8199. The examiner can normally be reached on Monday to Friday 6:00 am - 3:30 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRC
/JADE R. CALLAWAY/
Examiner, Art Unit 2872

/Stephone B. Allen/
Supervisory Patent Examiner
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